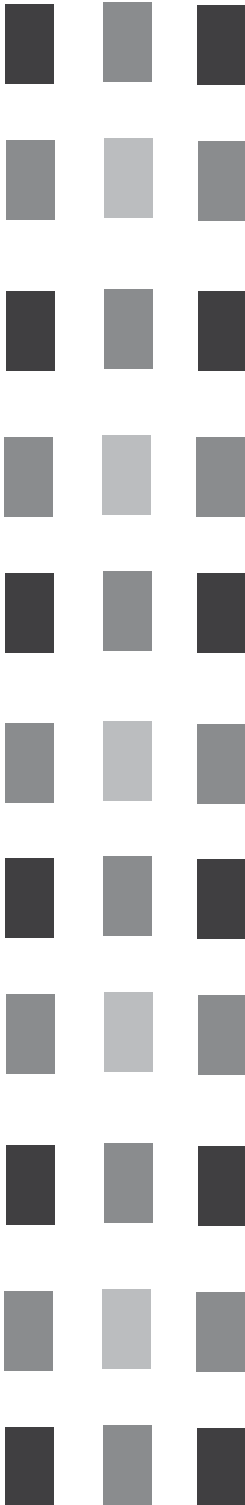


# The Ethics of Perception in the "Machine Ages"

*Maddalena Scimemi*



The words "machine ages" and "ethics" of the title pay homage to two renowned books – *Theory and design in the First Machine Age*, published in 1960, and *The New Brutalism: Ethic or Aesthetic?*, published in 1966<sup>1</sup> – written by the English critic Peter Reyner Banham. Both books, although published at a later date, started to be conceived around the early Fifties. In those years, Banham was the "personal intellectual trainer" of a young and rebel group of artists and architects named Independent Group: he began his public career giving and organizing lectures and conferences for them in the rooms of the Institute of Contemporary Arts in London. Their theoretical background was based – amongst others – on Moholy-Nagy's *Vision in motion*, Sigfried Giedion's *Mechanization takes command* and Marcel Duchamp's *Green box*.<sup>2</sup>

Prophetically, Moholy-Nagy wrote that his *Vision in motion* "was integrated in its text and illustration", and considered "the impatient reader who at first unwilling to plow through the written arguments, may enjoy the pictorial material. Stirred by this, he may then proceed to read brief captions, glossaries, and footnotes, until his appetite is whetted to explore the main text."<sup>3</sup>

Among the members of the Independent Group were precisely impatient readers of the book: the omnivorous research and approach of Moholy-Nagy perfectly fit their appetite for a new post-war socially engaged Aesthetics.

*Vision in motion* was published in 1947, after the death of its author. The book was the product of a whole life of experimentation in the field of "training of the human intellect", started by Moholy-Nagy at the Bauhaus during the 20's and finally ended in the States. It established several links with many other books, some passed almost under silence – like Gyorgy Kepes's *Language of vision*<sup>4</sup> –, some consciously acknowledged by Moholy-Nagy himself – like the well-known Sigfried Giedion's *Space Time and Architecture*.<sup>5</sup>

As well as Giedion, Moholy-Nagy was facing the "space-time" problem, although his interest was focused mainly on its visualization and only

secondly on its interdisciplinary implications.

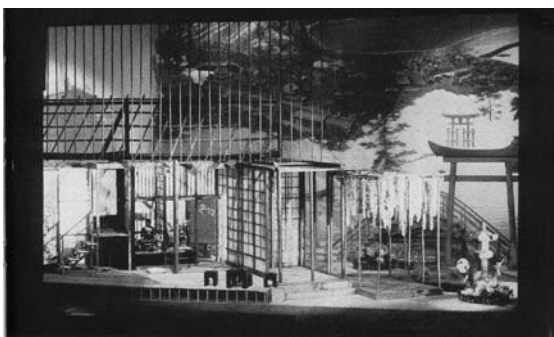
The importance of visualizing reality became already evident in Moholy-Nagy's early years in Berlin. Between 1920–30 he elaborated a series of representations that he named "visual manuscripts" on the issue of artificial motion. He started with abstract paintings and after meeting Lucia Schultz in 1922 – who was charged to document in photographs the Bauhaus and its products – he then shifted to photography, art direction and film making: light manipulation, photomontage and montage techniques exerted a great attraction over his experimental mind (fig. 1).

Already from the beginning, his work revealed a certain degree of ambiguity, which could produce some misunderstandings.

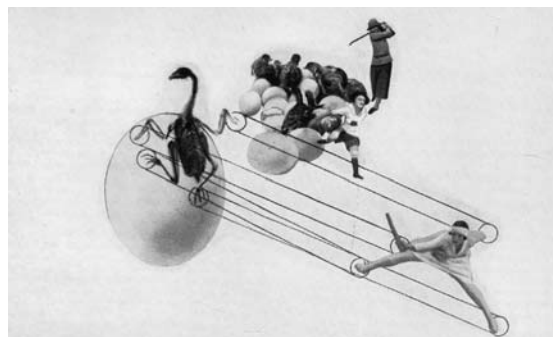
For example, in the photomontage "Once a chicken, always a chicken" of 1924<sup>6</sup> Moholy-Nagy put in the frame some eggs in movement, rolling down towards the observer; some eggs were opening and letting the chicks out, some others jumping down. The depth of the scene was enhanced by the inclusion of three people, frozen in three different positions and dimensioned as big as the eggs. A set of lines and circles connected the feet and the hands of the nearest girl to the limbs of the nearest chick. A first ambiguity of the representation was this set of lines: more akin to a spider-web, they seemed to produce a hindrance to the movement instead of suggesting dynamism and speed. A second ambiguity was given by the nearest chick: it was represented in X-ray, with its thin-boned structure in evidence, and for this reason it could catch and roughly stop the eye of the observer (fig. 2).

What sort of movement was Moholy-Nagy interested in?

As the just mentioned photomontage shows, it must be acknowledged that his efforts were aiming at learning and controlling the laws of perception, nearly indifferent to movement itself. He was attracted by the possibility – through his representations – of becoming more and more capable of controlling the feedback of the observer. With a



1 | László Moholy-Nagy, "Scene from Madame Butterfly" (1928)



2 | László Moholy-Nagy, photomontage "Once a Chicken, always a chicken" (1924)

great number of observers, he could see in his work a social implication: teaching, making advertisements for commercial companies, creating the set for dramas and films, in Moholy-Nagy's work were all means of gaining a broader public.

It was his firm belief that the definition "vision in motion" was more appropriate than the "space-time" one of Giedion, since "to feel what we know and to know what we feel is one of the tasks of our generation".<sup>7</sup> Moholy-Nagy had an ethic task, which was to educate the capability of feelings, to correct the "emotional illiteracy" of people: he wanted to help everyone "layer upon layer, stone upon stone, in the organization of emotions" through Art, the most perfect expression of the emotional life of human beings.

According to him, "contemporary art tries to establish a new morality and a new aesthetics not hampered by metaphysical absolutes". Moholy-Nagy wanted to achieve the equilibrium between 'mind' and 'matter'. He aimed to a consistent visual order, convinced that this visual order had a socio-biological foundation.<sup>8</sup> In this perspective, the definition 'vision in motion' assumes once more a special value: the act of vision, and the fact that the vision moves, imply an ordered sequence of actions. The intention of Moholy-Nagy was to represent this sequence visually, creating a kind of pressed images, named by him 'visions in motion'.



3 | Ryuji Sibata, "Parallel" (1937)

These images had to be decodified as 'visual manuscripts', which according to Moholy-Nagy "will be read more quickly and precisely than verbal ones".<sup>9</sup> He was convinced that his representations were directly related to the images of Cubism, Futurism, and to the technique of photomontage, superimposed photographs, scientific graphics.

The 'visual manuscripts' were "the mediator between intellectual concept and visual presentation, a kind of "photo cell" which translates "brain waves" into images."<sup>10</sup>

One of the simplest example of 'vision in motion' is represented in a work by Ryuji Sibata, titled "Parallel" (1937).<sup>11</sup> This photograph explains the "vision in motion" concept in its simplest version: a man is swimming in a swimming-pool, the point of view is set above him, in a position almost surreal for its high, between the eye of the observer/photographer and the man there is water moving, which distorts both the outline of the swimmer and the grid of the swimming-pool. In the words of Moholy-Nagy, this system is a "space-modulator" made by the water, the light, the grid of the tiled floor, the man and the observer (fig. 3).

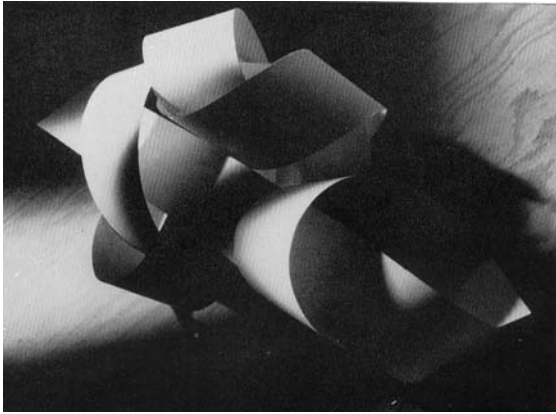
### The ethic problem

The United States welcomed Moholy-Nagy in Spring 1937: through the interest of Walter Gropius – who from the same year held the chairmanship of the school of Design of Harvard in Boston – Moholy-Nagy moved to Chicago, where he established a new, American Bauhaus.

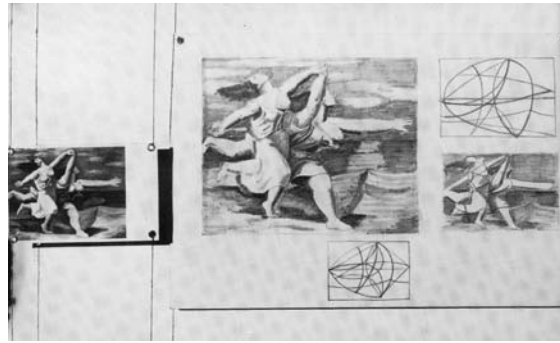
Since the very beginning of the school, the way of presenting activities and aims of the institute was clearly related to the German Bauhaus: both the logo and the scheme of the study-program were graphically similar to those by Schlemmer and Gropius made over ten years before.<sup>12</sup>

In Chicago, the basic course of the New Bauhaus was made by three great chapters of "information" and "experimental work": Technology, Art and Science. In the material courses, a peculiar separation divided two blocks: wood and metal were in one block, and glass, stone, clay and plastics in another. Even in the exercises of the students, concept and results were similar to German Bauhaus, notwithstanding the different words used to name them: a study on materials in the preliminary courses in Weimar Bauhaus became a "light modulator" in the Chicago version, but the exercise was the same (fig. 4).

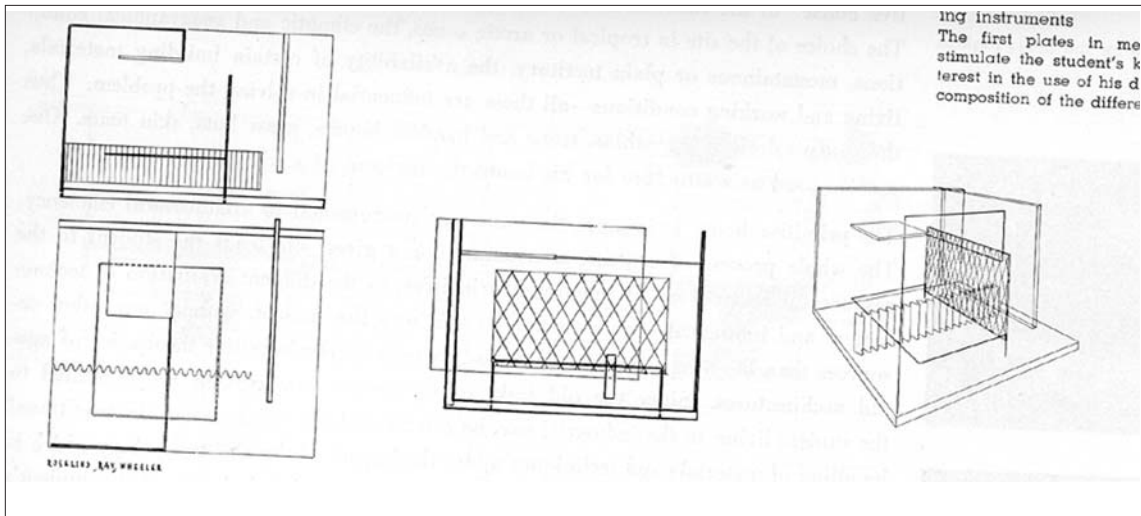
However, the difference was that Moholy-Nagy was thinking in terms of "space-time representations". Light was for him the most important of the primary sources, necessary to represent space in time. To set different "light modulators" became his and his students' task: the play of light over curved surfaces was to be investigated by each



4 | Margaret Roth, "Paper modulator contrasted with a flat plane of grained wood" (1939)



5 | Robert Santmyers, "Analysis of a Picasso painting" (1942)



6 | Rosalind Ray Wheeler, "Space modulator with elevation, plan, perspective and section" (1943)

student before any other variable.<sup>13</sup> In his New Bauhaus, students could also learn "comparative history of art" as well as "analytical and constructive drawing", compulsory subjects in the preliminary course (fig. 5).

This analytical approach was of course in debt of the art works and the teaching method experimented by the painter Johannes Itten at the Weimar Bauhaus. Nevertheless, if we consider the exercises of Chicago students, we see that Moholy-Nagy's approach was focused on the search of dynamic forces and plastic structure of the paint, not on its abstract and metaphysical foundations.<sup>14</sup>

The "analytical and constructive drawing" course was also dealing with architecture. The students were asked to do several exercises about built architecture (fig. 6).

One favourite subject was Friederich Robie's house, by Frank Lloyd Wright (1909), which was easily reachable for students in Chicago. According

to Gyorgy Kepes, teacher and assistant of Moholy, they had to do "the analysis of a house of Wright, with plans in different colors, in order to show the sequence of the observer's perception while he is approaching the entrance." The architecture was clearly used in order to identify a precise visual order, belonging to the visitor. The students had to show the right sequence of the movements allowed by the walls and the openings.<sup>15</sup>

Moreover Moholy's program displayed some new subjects and new group of subjects: for instance "fashion", which shows up in the group of textile studies, and "publicity", inserted in a group with light, photography, film. Once again, the hierarchy of Moholy-Nagy revealed a sort of ambiguity, split between the analytical approach and the requirements of the market.

This ambiguity was mirrored by the difficult position in which Moholy-Nagy's school in Chicago found itself since its early years of activity. Recently this position has been thoroughly dis-



cussed by Victor Margolin:<sup>16</sup> the school was supported by local industrial companies, and their interests were at the origin of a conflict, since it was Moholy-Nagy's belief that designers should lead industry, and not the other way around.

The ethic issue of the book comes out from the fact that Moholy-Nagy was aware of this conflict. In his words we find a vigorous critique of the commercial laws of the market and of industrial production, of those "thousand forces which try to influence public opinion, from advertising to town hall meetings; from art to science; a mighty propaganda machine run by intricately interwoven interests of lobbyists and pressure groups, monopolists and hired politicians from whose tentacles there is almost no escape."<sup>17</sup> With his laboratory in Chicago, Moholy-Nagy tried to avoid this pressure, but it is obvious that the educational program of the Institute of Design of Chicago was aimed to the training of artists, architects, photographers and industrial designers, who would have later been employed by American companies.

It has been pointed out that Moholy-Nagy's success depended on the strong cultural image of the Bauhaus and not on his accomplishments, that "his widespread pronouncements on the future of design and design education received a forum more because of his reputation as an internationally recognized avantgarde artist than on account of the results he produced as a design educator."<sup>18</sup>

If the relationships between Gropius Bauhaus and the Institute of Design were evident in many aspects, what was peculiar of Moholy-Nagy was his struggle for the consistency of its learning method and of its extremely experimental character.

While the Bauhaus was an art-university, the school of Chicago was conceived as a scientific laboratory, "in which not the fact but the process leading to the fact is considered important..."<sup>19</sup>

Moholy-Nagy tried to develop in every student "the flashlike act of connecting elements not obviously belonging together. Their constructive relationships, unnoticed before, produce the new result ... the key to our age: seeing everything in relationship."<sup>20</sup>

The Chicago school was focused on visual training, on analytical and constructive drawing and display of exhibition; it tended to specialize students in temporary set up, graphic design of advertisements, giving more importance to the richness of the visual stimuli than to the economic match of the products.

In this sense the school would have been necessary for the life of contemporary society. Moholy-Nagy believed that "we must control the application of material, technique, science, and art not only economically but also biologically and socially ... the common denominator is the fundamental acknowledgment of human needs; the task

is to recognize the moral obligation in satisfying these needs, and the aim is to produce for human needs, not for profits".<sup>21</sup>

### **The fifties in England: The second Machine Age**

Moholy-Nagy died in Chicago, on November 24th, 1946. Ten months earlier, at the beginning of the same year, the first meeting which would have then led to the foundation of the Institute of Contemporary Arts (from now on ICA) had taken place in London. The ICA became the first londoner institution exclusively dedicated to contemporary arts. Amongst the members of the Committee, were a few well known art critics and surrealist and constructive artists and some wealthy American art collectors and intellectuals.<sup>22</sup>

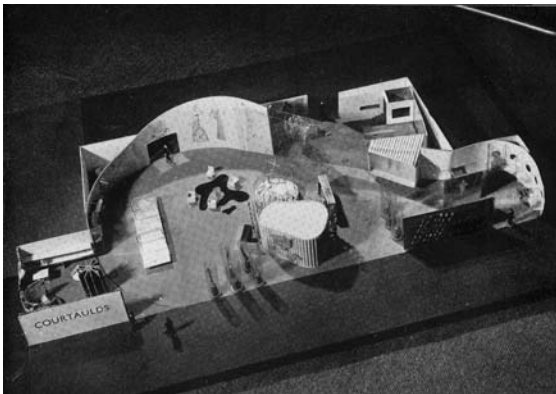
Herbert Read (1893–1968), the first President of the Institute, had a deep faith in the Bauhaus principles and enlightened respect for tradition and expressions of human feelings. He was a friend of Henry Moore, Barbara Hepworth, and Ben Nicholson, as well as other Constructivist artists.<sup>23</sup> Read had worked at the Victoria & Albert Museum in London, at the Courtauld Institute, and on the editorial board of the Burlington Magazine since 1933. Most importantly, since the early 30's he had been in touch with Walter Gropius and László Moholy-Nagy, when he was trying to establish a British Bauhaus in Edinburgh.

Moholy-Nagy left Berlin in 1934. Before moving to Chicago, he spent one year in Holland and then two years in England, like many others escaping from Germany, such as Walter Gropius, Marcel Breuer, Naum Gabo, Piet Mondrian, Gyory Kepes, Arthur Korn.<sup>24</sup> Moholy-Nagy lived in London from May 1935 to June 1937, at the Isokon Flats of Wells Coates in Hampstead, collaborating as graphic designer with the companies "The Empire's Airway", "International Textiles", and "London Transport". He established there a solid friendship with Herbert Read, who introduced him to the circle of constructivist artists and to the architects of the British wing of Modern Movement,<sup>25</sup> called MARS group: a product of the collaboration of Moholy-Nagy with those militant modernists is the volume *CIRCLE*, edited in 1937 by the constructivist artists Naum Gabo and Ben Nicholson and the architect Leslie Martin (fig. 7, 8).<sup>26</sup>

In the following years, Read remained a great admirer of Moholy-Nagy and of his method. When Read went for the first time to the United States, in the Spring of 1946, he visited Moholy-Nagy in Chicago. A few months later he wrote: "I would say that the Institute of design is the best school of its kind that exist anywhere in the world today".<sup>27</sup>



7 | MARS (Modern Architecture Research Group) Exhibition in London (1937)



8 | László Moholy-Nagy and Marcel Breuer, "Model of an exhibition with offices and stage for fashion shows and cinema performances" (1936)

## Independent thinking

On the basis of the relationship between Moholy-Nagy and Herbert Read, I think that Read played a key-role in introducing Moholy-Nagy's work to the ICA. And here some contradictions emerge. Herbert Read (like many of the founders of the ICA) had been trained in the Thirties: he held the belief that artistic value was eternal and absolute, and considered the arts to be at the top of a pyramid, at the bottom of which were the mass-media. Such an opinion provoked in the younger generation of the members of the Institute a polemical reaction against Read. One of them, the young painter Richard Hamilton, once said that: «if there was one binding spirit among the spirit of the Independent Group it was a distaste for Herbert Read's attitudes».<sup>28</sup>

The hostility against Herbert Read was shared by other young members: first of all, there was Peter Reyner Banham, who showed himself in several occasions being against "the marble shadow of Sir Herbert Read's AbstractLeftFreudian aesthetics".

Although the members of the Independent Group declared themselves as "rebels" and enemies of Herbert Read, their reading of Moholy-Nagy's book seems now less provoking, even if it was an impatient reading. This is even more evident if we consider that Sybil Moholy-Nagy was invited by the ICA to give a lecture about the work of her husband in the summer of 1951.

The first effect of Moholy-Nagy's influence was immediate: in the same year, for the celebration of the Festival of Britain at the Institute, the sculptor Eduardo Paolozzi, the painter Richard Hamilton and the photographer Nigel Henderson organized the exhibition "Growth and Form",<sup>29</sup> which paid an outspoken homage to the visual impact of the book *Vision in motion*. The following year, 1952, Banham arrived at the ICA and started the meetings of the Independent Group, with Paolozzi, Henderson and Hamilton amongst others.

One year later, in 1953, a more radical interpretation of Moholy-Nagy's book was given by another exhibition at the ICA. This time the design-team included, with Paolozzi and Henderson, also the young architects Peter and Alison Smithson, who had joined Banham's meetings from the beginning. The "Parallel of Life and Art" exhibition – originally titled "Sources" – became a master-piece of consistency in visual communication: it was intended to show the fundamental sources of the human environment only through photography.

I can not tell whether the Smithson were aware of Moholy-Nagy's message already before 1953, whether it happened through Banham and his lectures, or rather whether it was the collaboration with Paolozzi and Henderson which led them to its reading. This last might be the right hypothesis, since during the set up of the "Parallel of Life and Art" exhibit the Smithson were busy especially with their contribution to CIAM 9 in Aix en Provence.<sup>30</sup>

Anyway, it seems to me that whenever the Smithson read the book, they did it carefully, absorbed his "creative education" and gained an "independent thinking" with ethic ambitions.<sup>31</sup> In other words, they perfectly understood how impatient the rest of the world was: they wanted to communicate with the masses, and for this purpose they assimilated Moholy-Nagy's multi-layered visual language, enhanced the consistency of his message, and concentrated their architectural work in the search of fundamental principles of living.<sup>32</sup>

In a broader perspective, we can recognize a sort of genealogy of British Architecture in the

Fifties and Sixties, whose roots have to be found in the reading Moholy-Nagy's book.

Not only Alison and Peter Smithson, but also some English architects of the following generation – first of all Cedric Price – revealed themselves as consistent heirs of Moholy-Nagy's experimental approach.<sup>33</sup>

Their work – in terms of presentation materials and final buildings – dealt with creative oppositions. On one side, they aimed at speed in communication (according to the impatient readers of the book); on the opposite side they defended the blur of disciplines, which could not help the speed of the understanding. On one hand, they were accepting the challenge of building a tool, which would appeal to every architect;<sup>34</sup> on the opposite hand, they respected the "ethic issue" of showing objects as found, without granting themselves any intervention. Finally, they wanted to achieve simplicity of the graphic architectural representation, and on the contrary they had to deal with the difficulty of representing the movement in two-dimensional images. The whole design of Cedric Price's Fun Palace – elaborated between 1960–64 – could be read as an interpretation of Moholy-Nagy's space or light "modulators", where the representation of the tool-architecture is a 'vision in motion' itself, with arrows, rasters, wheels, engines, etc. (fig. 9).<sup>35</sup>

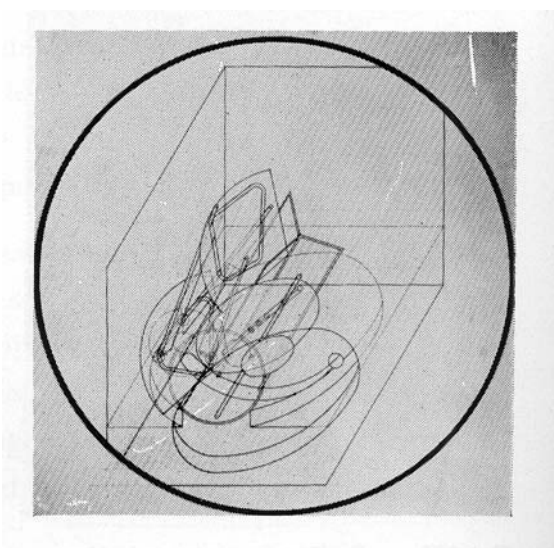
One last aspect of Moholy-Nagy's approach must be mentioned: the key-role afforded to Biology. Ten years after the death of the Hungarian artist, Sir John Summerson pointed out: "he cuts himself off from inherited theory and postulates a new theory which would fit the biological (let us say psychophysical) needs of man like a glove ... [N]otwithstanding the fine perceptions and immensely valuable practical suggestions contained

in Moholy-Nagy's book, it seems to me that his insistence on the biological is a premature and purely verbal closure of the subject of modern architectural theory. It gives nothing to hold onto but this elusive myth of "biological" finality.<sup>36</sup>

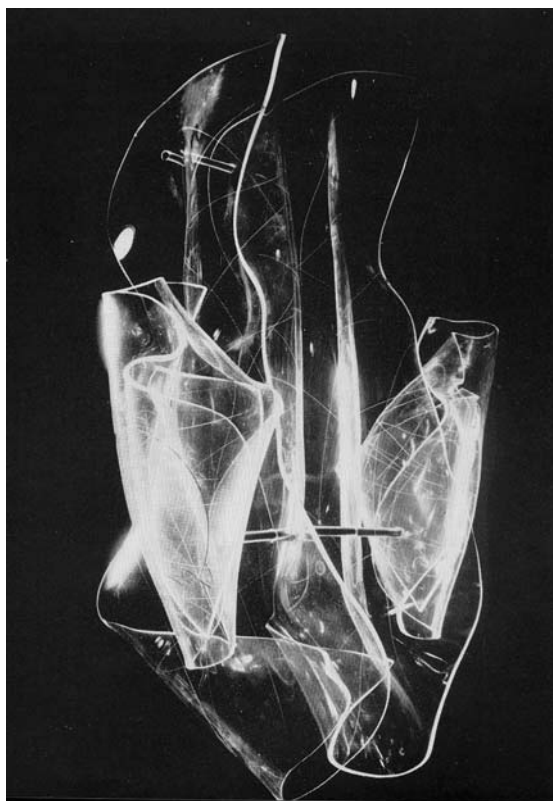
Following the suggestion of Summerson, the myth of biology must be converted into the "psychophysical". In this sense, today it seems not premature anymore: the importance of the psychophysical environment stressed by Moholy-Nagy has still a strong influence on artistic and architectural expressions, and, moreover, its "purely verbal closure" is on the contrary one the most fertile source of inspiration.

A few built interpretations of Moholy-Nagy's "visions in motion" can be found in contemporary architecture. Some echoes of Moholy's aesthetics show up in the work of the Catalan architect Enric Miralles (1945–2001), whose links to the English architects and their visual training can not be discussed here.<sup>37</sup> The blue "blot" elaborated for the Bremerhaven Competition (1993), in order to synthesize a complex project for the new waterfront, as well as the Takaoka Train Station Entrance (1991–93, built), with the railways lifted and distorted over the entrance-gate, seem clearly influenced by Moholy-Nagy's light and space modulators.<sup>38</sup>

More recently, the Diller + Scofidio "Blur Project" realized in the Swiss Expo 2002, with its



9 | László Moholy-Nagy, "Motion scheme of the kinetic Light display machine" (1922–30)



10 | László Moholy-Nagy, "Space Modulator" (1940)



attempt to play with transparency and technology, demonstrates today that Moholy's lesson has matured and become ready to be built.

Lazlo Moholy-Nagy was not an architect, but a great teacher. Sybil Moholy-Nagy wrote about her husband: "a total Constructivist had to be a teach-

er: this is the ethical fundament of his enthusiasm and life" (fig. 10).

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#### Notes:

- 1 P. R. Banham, *Theory and Design in the first machine age*, London: Architectural Press 1960; P. R. Banham, *The New Brutalism: Ethic or Aesthetic?*, London: Architectural Press 1966.
- 2 For an exhaustive study about Banham and his formation of "intellectual", see N. Whiteley, *Reyner Banham: historian of the immediate future*, London-Cambridge (USA) 2002 ; for the Independent Group see the catalogue by C. Lichtenstein, T. Schregenberger (ed.), *AS FOUND: die Entdeckung des gewöhnlichen*, Zürich, 2001.
- 3 L. Moholy-Nagy, "FOREWORD", in *Vision in motion*, Chicago 1947, p. 6.
- 4 G. Kepes, *Language of Vision*, Chicago 1944.
- 5 In Moholy-Nagy words, "Space Time and Architecture will help greatly in understanding this concept [of space – time] though I am approaching the problem not so much from the point of view of architectural structure as from that of social implications". (from L. Moholy-Nagy, *Vision in motion*, p. 266).
- 6 Ibidem, p. 285: he got the inspiration from a Kurt Schwitters' poem. Below this "visual manuscript" Moholy wrote that "its scenes can be visualized at once".
- 7 Ibid., p. 11.
- 8 Ibid., p. 123.
- 9 Ibid., p. 121.
- 10 Ibid., p. 284.
- 11 Since in Moholy-Nagy's opinion "distortion may mean vision in motion". See in Ibidem p. 118.
- 12 Beside the little change of font in the character used by Oskar Schlemmer, the main difference in Moholy-Nagy's logo is a black background which emphasizes the circular symbol. This solution with coloured backgrounds was experimented by Moholy-Nagy in London, when he was working as a graphic designer. For a similar use of backgrounds by Le Corbusier see the contribution of Catherine De Smet in this volume.
- 13 In his words a "Light modulator is every object with combined concave-convex or wrinkled surfaces ... since it reflects light with varied intensity depending upon its substance and the way its surfaces are turned toward the light source." (quote by L. Moholy-Nagy, *Vision in motion*, p. 198). See also "Moebius rings (Dufay color photography) 1935: colored transparent cellophane with white opaque rings", published in Ibidem, p. 172.
- 14 Itten was the predecessor of Moholy in the preliminary course at Weimar. When Itten left the school (1923), Gropius called Moholy Nagy and Josef Albers to replace him. See for example the series of Itten's "Analysis Alten Meister – Adoration of Master Franke" (1921).
- 15 See the exercise in the use and combination of colors related to the depth of the representation published in *Language of Vision* by Gyorgy Kepes. Those studies should be works of the Chicago school – even if not expressly mentioned – since from the first years of the school Kepes was collaborating with Moholy-Nagy.
- 16 Victor Margolin, *The struggle for Utopia*, Chicago 1997, from p. 210 onwards.
- 17 L. Moholy-Nagy, *Vision in motion*, p. 18.
- 18 V. Margolin, *The struggle for Utopia*, p. 217, p. 219.
- 19 At the opening of the School of Design of Chicago (on february 1939), he said: "this is not a school but a laboratory". See Margolin, *The struggle for Utopia*, p. 239; see also Sybil Moholy-Nagy, *Moholy-Nagy: Experiment in totality*, Cambridge (Mass.) & London (England) 1969, p. 170.
- 20 L. Moholy-Nagy, *Vision in motion*, p. 68.
- 21 Ibid., p. 24.
- 22 Herbert Read, Peter Watson, rich art collectionist and friend of Salvador Dali; Peter Gregory, director of The Burlington Magazine, and many surrealist artists such as E.L.T. Mesens (belgian painter friend of Rene Magritte) and Roland Penrose. When in 1936 Moholy-Nagy set up his first personal exhibition, it was in the rooms of London Gallery in Cork Street. This gallery was the heart of English Surrealist wing, a favourite place for the future founders if the ICA.
- 23 See the article by Herbert Read, *Distortion*, in *The Listener*, November 26, 1930, republished in B. Read, D. Thistlewood (ed.), *Herbert Read, A british Vison of World Art*, Leeds 1993, p. 45.



- 24 In 1935, with other continental artists such as Walter Gropius, Marcel Breuer, Naum Gabo, Piet Mondrian, arrived in London "united against the common enemy, an indifferent public". (H. Read, *An Event of some importance*, in *A British Vision of World Art*, p. 64).
- 25 László Moholy-Nagy occupied Isokon flats, Lawn Road, the first International Style building in Hampstead by Wells Coates.
- 26 See H. Read, *A Nest of gentle artists*, republished in *A British Vision of World Art*, p. 60. In those years Moholy-Nagy made a film about the New London Zoo and the work of Tecton Group: it shows a significant interpretation of the British Modernist architecture. See in S. Moholy-Nagy, *Moholy-Nagy: experiment in totality*, pp. 125–26.
- 27 October 1946, quoted by V. Margolin, *The struggle for Utopia*, p. 247.
- 28 Conversation with Peter Reyner Banham and Lawrence Alloway in the film *Fathers of Pop*, recorded in 1977, published in Anne Massey, *The Independent Group: Modernism and mass culture in Britain 1945–59*, New York, Manchester, p. 45.
- 29 Among the books used by the members of the Independent Group, there was *On growth and form* by D'Arcy Wentworth Thompson, Cambridge 1917, 1942, 3<sup>rd</sup> ed. 1959, which played a great influence also on English Constructivist artist.
- 30 The same happened in *This is Tomorrow* exhibition at the Whitechapel Gallery, London 1956. The group made by Paolozzi, Henderson, and the Smithsons created "patio and pavilion", but it was merely a work by the two artists. Paolozzi and Henderson were interested in intuition, simplification, primary sources, emotional quality of textures: these were weapons against that "age of isolation" criticized by Moholy-Nagy.
- 31 L. Moholy-Nagy, *Vision in motion*, cit., p. 20 and p. 25.
- 32 Wayland Young pavilion, Bayswater (London) in 1959. The main issue of this architecture was to deal with inner and outer space: for this reason the corridor wall kept the existing tree "as found". It has recently published by P. Smithson, *The charged Void*, Monacelli Press 2002.
- 33 Concerning Cedric Price and his relation to the Smithsons and to English Neoavangardes, see the article by the author *The Other History of British Modernism*, in *DAIDALOS*, n. 74, 2000, pp. 14–21, and the clever work by S. Sadler, *The situationist city*, Cambridge (Mass.) & London (England) 1998.
- 34 See the series of "Appliance Houses" by Alison Smithson (1956) in comparison with the "Capsule Housing" in the Potteries Thinkbelt project by Cedric Price (1964). The idea of the Appliance House was about a building capable "to of group in any series of numbers, to imply a new sort of garden, to have a high degree of privacy". This idea of the Smithsons was directly related to a few Moholy's space modulator exercises, as well as to the exercises by his students in Chicago. I am thinking in particular to Georg Keck's design course on "primitive house", that we find published with the "whale-bone house for the arctic region" in *Vision in motion*, p. 98.
- 35 "on a circular base through three transparent frames, three motion areas were created ... The moving sculpture within a two-minute turning period, is made for a film" in L. Moholy-Nagy, *Vision in motion*, p. 238.
- 36 J. Summerson, *The case for a Theory of Modern Architecture*, in *RIBA Journal*, June 1957, in Joan Ockman, *Architecture Culture 1943–1968*, New York 1993, p. 232.
- 37 On the relationship between Alison and Peter Smithson and Miralles, see B. Colombina, *Couplings*, in *OASE* n. 51 (1999). On this phase of the work of Miralles, see *Enric Miralles*, in *El Croquis* n. 70 (1994).
- 38 Moreover, the blue "blot" by Miralles recalls Gyorgy Kepes' *Photographic drawing* 1944, published in G. Kepes, *Language of vision* (p.162 of the Italian version).

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Fig. 1: fig. 374 p. 265

Fig. 2: fig. 387 p. 285

Fig. 3: fig. 153 p.119

Fig. 4: fig. 272 p. 203

Fig. 5: fig. 8 p. 38

Fig. 6: fig. 118 a, b, c, d p. 97

Fig. 7: fig. 367 p. 261

Fig. 8: fig. 366 p. 261

Fig. 9: fig. 324 p. 238

Fig. 10: fig. 357 p. 255, rotated of 90° degrees

